



This document includes Section 18.0 – Non-operational Vessels, of the Draft EPA Report “Surface Vessel Bilgewater/Oil Water Separator Environmental Effects Analysis Report” published in 2003. The reference number is: EPA-842-D-06-018

DRAFT
Environmental Effects Analysis Report
Surface Vessel Bilgewater/Oil Water
Separator

Section 18.0 – Non-operational Vessels

2003

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ENVIRONMENTAL EFFECTS ANALYSIS REPORT

***SURFACE VESSEL BILGEWATER/
OIL WATER SEPARATOR (OWS)***

Vessel Group: Non-Operational Vessels (LKA 113)

Prepared by:

Naval Sea Systems Command
U.S. Department of the Navy

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U.S. Environmental Protection Agency

**Environmental Effects Analysis Report on
Surface Vessel Bilgewater/Oil Water Separator Discharge (OWS)
Non-Operational Vessels (LKA 113)**

1.0 Introduction

The bilge of a surface ship is the lowest inner part of the hull where liquid drains from the interior spaces and the upper areas of the vessel (EPA and DoD, 1999). All vessels generate bilgewater and most commissioned Armed Forces vessels are fitted with oil/water separator (OWS) systems designed to reduce the oil content of the discharge to 15 mg/L or less (in accordance with OPNAVINST 5090.1B).

Minor accumulation of bilgewater in non-operational vessels could occur from condensation, rainwater that may drain from openings in the vessels' upper decks, and minor leakage from below the waterline seals and blanked openings. Little, if any, oil comes in contact with the bilge; however, the possibility still exists that residual oily contaminants may be found from minor leaks from parts such as piping, valves, flanges.

This Environmental Effects Analysis Report (EEAR) evaluates surface vessel bilgewater discharge from the UNDS vessel group, "Non-Operational Vessels". This group includes vessels removed from active service or commission. Vessels in this vessel group range from aircraft carriers of over 1000 ft in length to boats and craft of less than 100 ft in length. Inactivation procedures for Navy vessels call for cleaning and preservation of bilges; blanking seachests; and hydroblasting collection, holding, and transfer (CHT) systems (Navy, 1991). These inactivation procedures eliminate the majority of the bilgewater accumulation. The amphibious cargo ship CHARLESTON Class (LKA 113) was selected as the representative vessel class for this group. With five inactive vessels, the LKA 113 class comprises the largest number of large size vessels (10,000 tons and 575 ft) within the group. For more information about the vessel group and the selection of the representative vessel class used in this environmental effects analysis (EEA), see *Vessel Grouping and Representative Vessel Class Selection for Surface Vessel Bilgewater/Oil-Water Separator Discharge* (EPA and DoD, 2000c).

The following MPCDs passed the screening process, described in the *Marine Pollution Control Device Screen Criteria Guidance* (EPA and DoD, 2000b), and were determined to be viable options in the feasibility analysis for the vessel group (see the *Feasibility Impact Analysis Report Surface Vessel Bilgewater*, hereafter referred to as the Bilgewater FIAR) (EPA and DoD 2002a):

- Collection, Holding, and Transfer (CHT) (EPA and DoD, 2001b)
- *In situ* Biological Treatment (EPA and DoD, 2001a)
- Oil Absorbing Socks (EPA and DoD, 2000d)

2.0 Differences from the EEA Methodology

The analysis of discharge information and the presentation of results in this report do not follow the methodology contained in *Environmental Effects Analysis Guidance for Phase II of the Uniform National Discharge Standards for Vessels of the Armed Forces* (EPA and DoD, 2000a). The rationale for deviating from the established methodology is described below.

As determined in the Bilgewater FIAR (EPA and DoD, 2002a), the CHT option is a feasible MPCD for this vessel group (CHT is currently in use for this vessel group). Application of this MPCD option involves shore-side treatment of collected bilgewater at an NPDES-permitted facility, and thus results in no discharge of untreated bilgewater to the receiving waters. When this report was written, EPA and DoD anticipated that the level of analysis in this report would be sufficient to support choosing an appropriate MPCD performance standard for the LKA 113 vessel group because CHT is expected to be the preferred option when applying the seven considerations under the Section 312(n) of the Clean Water Act (EPA and DoD, 2002b).

3.0 Summary of EEA Results

There are only minimal anticipated impacts to receiving waters if CHT is conducted appropriately. There will be no toxic constituents, conditions related to narrative water quality criteria (e.g., turbid water), non-indigenous species, or bioaccumulative contaminants of concern introduced directly to the receiving water. The only potential impact to the environment identified for this MPCD would result from the discharge of treated bilgewater from an NPDES-permitted facility.

4.0 MPCD Ranking and Associated Uncertainty

CHT is the preferred option for this vessel group because it is assumed to have the least environmental impact when compared to the other MPCD options. There may be uncertainty in this limited analysis in regard to how much, if any, bilgewater is mishandled during transfer. However, because process knowledge of pierside management indicates mishandling is not a common occurrence, a determination of the frequency of this occurrence and associated uncertainty was not performed. Regardless of this minor aspect of uncertainty, CHT is the preferred option due to its minimal impact on the environment.

5.0 References

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